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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,599	09/28/2001	Hiddenari Nakahama	1155-0230P	2661
2292	7590	03/03/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			CHOI, LING SIU	
PO BOX 747			ART UNIT	
FALLS CHURCH, VA 22040-0747			PAPER NUMBER	
			1713	

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,599

Applicant(s)

NAKAHAMA ET AL.

Examiner

Ling-Siu Choi

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. This Office Action is in response to the Reply to Restriction Requirement filed November 25, 2003. Claims 1-18 are now pending, wherein claims 10-18 of Group II were elected with traverse. It is noted that Group I relates to a kneading status evaluation method for a composition comprising a rubber and a filler by measuring a modulus (complex or dynamic elastic) at 0.01% strain and 2% strain and Group II relates to a kneading status evaluation method for a composition comprising a rubber and a filler by measuring a viscosity coefficient (complex or real) with an open roll mill and a closed roll mill. Thus, these two groups are different and the restriction is made as final.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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3. The abstract of the disclosure is objected to because the abstract should be generally limited to a **single paragraph** on a separate sheet **within the range of 50 to 250 words**.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al. (US 4,076,220) in view of Rodriguez [Principles of Polymer System, page 160-162 (1970)].

The present invention relates to a kneadning status **evaluation method** for a rubber composition containing a rubber and a filler, comprising the steps of

5	measuring	a complex viscosity coefficient (η^*) under at least two different temperatures
6	calculating	a kneading status monitor index (M) according to $ \eta^* = A \exp(-M/RT)$
7	comparing	the calculated kneading status monitoring index (M) with a predetermined target kneading status monitor index (P)

(summary of claim 10)

Nakashima et al. disclose a method of mixing and kneading control of a rubber kneader in order to achieve an uniform plasticity and dispersibility of the additive to enhance the quality of the individual finished tire, the method comprising the steps of detecting the plasticity of a rubber raw material after the rubber raw material and additives are put into a receptacle of the rubber kneader and controlling total energy spent by the electric motor of the rubber kneader in correspondence with the detected plasticity of the rubber raw material (abstract; col. 1, lines 21-25). Nakashima et al. further disclose that the plasticity of the kneaded rubber is related to the total electric energy spent during the kneading and mixing operation by the equation of $ML = F_1(W, T)$, wherein ML denotes the plasticity of the kneading rubber; W total electric energy spent during the kneading and mixing operation; T temperature of the kneaded rubber during the kneading and mixing operation (col. 2, lines 66-68; col. 3, lines 1-7). It is noted that ML reads on viscosity coefficient; W kneading status monitor index; T measuring temperature.

The different between the present claims and the disclosure of Nakashima et al. is the requirement of F_1 to be defined in the present claims.

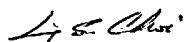
Rodriguez disclose that the relationship between the temperature and the viscosity is usually a logarithmic function (pages 160-162). It would have been obvious to one of ordinary skill in the art at the time the invention was made to set F_1 function as a logarithmic function in the disclosure of Nakashima et al. because the viscosity is usually related to temperature by logarithmic function and thereby obtain the present invention.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is (703)305-0887.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on (703)308-2450.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703)308-2351.



Ling -Siu Choi

February 20, 2004